Practice: 590 - Nutrient Management

Scenario: #1 - 590 Basic

Scenario Description:

A basic nutrient management system is implemented on a typical 25 acre cropland or hayland field where there is no manure application. Implementation results in the proper rate, source, method of placement, and timing of nutrients. Typical installation involves soil testing, analysis, consultant services that provide nutrient recommendations and an associated nutrient budget, and record keeping. Nitrogen-urease inhibitors are used for surface applied urea products. The technical recommendations are based on land grant university guidelines or crop removal rates. Producer records demonstrating implementation of the 4 R's of the nutrient management criteria are required.

Associated practices: Conservation Crop Rotation (328), Residue and Tillage Management - No-Till/ Strip Till/ Direct Seed (329), Cover Crop (340), Filter Strip (393), Irrigation Water Management (449), Drainage Water Management (554), and Integrated Pest Management (595).

Before Situation:

Cropland or hayland with no manure application either is not practicing any nutrient management or the practices do not meet the standard. Soil tests are not completed on a regular basis and fertilizer applications are not based on nutrient recommendations. Improper management has caused water quality degradation through excess nutrients transported through runoff and soil erosion to surface waters and/or to groundwater through leaching. Urea products are typically surface applied without inhibitors increasing losses. Soil quality may also be degraded by excess or inadequate nutrients.

After Situation:

A nutrient management system that meets the NRCS 590 standard is developed on a 25 acre field of cropland or hayland. The development and implementation of a nutrient management plan benefits plant productivity and reduces off-site degradation by maximizing nutrient use efficiency by the crop and minimizing the potential of nutrient losses in leaching and runoff caused by over-application. A nutrient budget is developed for each field based on soil test analysis and land grant university or crop removal rates. Pre-plant soil tests are used to determine the annual nutrient budget and post-harvest soil and/or tissue tests are used to re-evaluate the adequacy of the plant's nutrient recommendations in meeting crop needs while minimizing phosphorus application and residual nitrogen. Post-harvest testing ensures proper utilization of nutrients thus reducing the potential for off-site impacts. Urease inhibitors are used for surface applications of urea products to reduce losses. The producer maintains records that are provided annually of the current soil tests, analysis, amount of application, and forms and rates of nutrients for each field, including post-harvest analysis. Management results in nutrient applications that minimize nutrient runoff and leaching, and/or the buildup of excess nutrient concentrations.

Scenario Feature Measure: Per acre of applied management

Scenario Unit: Acre

Scenario Typical Size: 25

Scenario Cost: $516.87 **Scenario Cost/Unit:** $20.67

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	$37.72	1	$37.72
Labor						
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	$96.17	1	$96.17
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$22.22	2	$44.44
Materials						
Nitrogen-Urease inhibitor	260	Nitrogen-Urease inhibitor	Acre	$12.76	25	$319.00
Test, Soil Test, Standard	299	Includes materials, shiping, labor, and equipment costs.	Each	$9.77	2	$19.54

Practice: 590 - Nutrient Management

Scenario: #2 - 590 Basic Organic

Scenario Description:

A basic nutrient management system for organic production is implemented on a typical 15 acre field of organic cropland or hayland. Implementation results in the proper rate, source, method of placement, and timing of organic nutrients. Typical installation involves soil and manure testing, analysis, consultant services that provide nutrient recommendations and an associated nutrient budget, and record keeping. The technical recommendations are based on land grant university recommendations or crop removal rates. Producer records demonstrating implementation of the 4 R's of the nutrient management criteria are required. Effective nutrient management enables organic producers to effectively utilize organic fertilizers, manure, and/or compost appropriately, which improves soil quality and minimizes runoff of nutrients from fields to surface water.

Associated practices: Conservation Crop Rotation (328), Residue and Tillage Management - No-Till/ Strip Till/ Direct Seed (329), Cover Crop (340), Filter Strip (393), Irrigation Water Management (449), Drainage Water Management (554), and Integrated Pest Management (595).

Before Situation:

Nutrient management practices are either not observed or do not meet the standard on the organic cropland or hayland. Organic cropland or hayland either is not practicing any nutrient management or the practices do not meet the standard. Soil tests are not completed on a regular basis and organic fertilizer applications and amendments are not based on nutrient recommendations. Improper management has caused water quality degradation through excess nutrients transported through runoff and soil erosion to surface waters and/or to groundwater through leaching. Soil quality may also be degraded by excess or inadequate nutrients.

After Situation:

An organic nutrient management system that meets the NRCS 590 standard and NOP regulations is developed on a typical 15 acre field of organic cropland or hayland. The development and implementation of a nutrient management plan benefits plant productivity and reduces off-site degradation by maximizing nutrient use efficiency by the crop and minimizing the potential of nutrient losses in leaching and runoff caused by over-application. A nutrient budget is developed for each field based on soil test analysis and land grant university or crop removal rates. Pre-plant soil tests are used to determine the annual nutrient budget and post-harvest soil and/or tissue tests are used to re-evaluate the adequacy of the plant's nutrient recommendations in meeting crop needs while minimizing phosphorus application and residual nitrogen. Post-harvest testing ensures proper utilization of nutrients thus reducing the potential for off-site impacts. The producer maintains records that are provided annually of the current soil tests, analysis, amount of application, and forms and rates of nutrients for each field, including post-harvest analysis. Specialized training is required by attending annual workshops and/or conferences. Management results in nutrient applications that minimize nutrient runoff and leaching, and/or the buildup of excess nutrient concentrations.

Scenario Feature Measure: Per acre of applied management

Scenario Unit: Acre

Scenario Typical Size: 15

Scenario Cost: $383.79 **Scenario Cost/Unit:** $25.59

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	$37.72	2	$75.44
Labor						
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	$96.17	1	$96.17
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$22.22	1	$22.22
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	$39.79	2	$79.58
Materials						
Test, Compost Analysis	307	Moisture, Total N, P, K. Includes materials and shipping only.	Each	$45.42	2	$90.84
Test, Soil Test, Standard	299	Includes materials, shiping, labor, and equipment costs.	Each	$9.77	2	$19.54

Practice: 590 - Nutrient Management

Scenario: #3 - 590 Small Farm Diversified

Scenario Description:

A nutrient management system is implemented on a small/diversified farm such as community supported agriculture farms, truck farms, and market gardens, where numerous variable crops are grown on relatively small acreages (0.25 to 10 acres) and multiple harvests per year. Due to the variability of crops and small acreage, a more intensive and diversified management approach is necessary to ensure proper nutrient utilization. Implementation results in the proper rate, source, method of placement, and timing of nutrients. Typical installation involves soil testing, analysis, consultant services that provide nutrient recommendations and an associated nutrient budget, and record keeping. The technical recommendations are based on land grant university recommendations or crop removal rates. Producers typically attend one workshop to acquire the knowledge required to implement the practice. Producer records demonstrating implementation of the 4 R's of the nutrient management criteria are required.

Associated practices: Conservation Crop Rotation (328), Residue and Tillage Management - No-Till/ Strip Till/ Direct Seed (329), Cover Crop (340), Filter Strip (393), Irrigation Water Management (449), Drainage Water Management (554), and Integrated Pest Management (595).

Before Situation:

Nutrient management practices are either not observed or do not meet the standard. Soil tests are not completed on a regular basis and fertilizer applications are not based on nutrient recommendations. Improper management has caused water quality degradation through excess nutrients transported through runoff and soil erosion to surface waters and/or to groundwater through leaching. Soil quality may also be degraded by excess or inadequate nutrients.

After Situation:

A nutrient management system that meets the NRCS 590 standard is developed on a small/diversified farm. Producer has acquired necessary technical knowledge to implement according to 590 standard. The development and implementation of a nutrient management plan benefits plant productivity and reduces off-site degradation by maximizing nutrient use efficiency by the crop and minimizing the potential of nutrient losses in leaching and runoff caused by over-application. A nutrient budget is developed for each field or "crop block" based on soil test analysis and land grant university or crop removal rates. The producer maintains records that are provided annually of the current soil tests, analysis, amount of application, and forms and rates of nutrients for each field or "crop block", including post-harvest analysis. Management results in nutrient applications that minimize nutrient runoff and leaching, and/or the buildup of excess nutrient concentrations.

Scenario Feature Measure: Per small/diversified farm

Scenario Unit: Each

Scenario Typical Size: 1

Scenario Cost: $452.92 **Scenario Cost/Unit:** $452.92

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Labor						
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	$96.17	2	$192.34
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$22.22	1	$22.22
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	$39.79	1	$39.79
Materials						
Test, Compost Analysis	307	Moisture, Total N, P, K. Includes materials and shipping only.	Each	$45.42	2	$90.84
Test, Plant Tissue Test	301	Tissue analysis for crops. Includes materials and shipping only.	Each	$26.14	3	$78.42
Test, Soil Test, Standard	299	Includes materials, shiping, labor, and equipment costs.	Each	$9.77	3	$29.31

Practice: 590 - Nutrient Management

Scenario: #4 - 590 Basic Manure

Scenario Description:

A basic nutrient management system is implemented on a typical 25 acre cropland or hayland field where manure or compost is applied in addition to commercial fertilizer. Implementation results in the proper rate, source, method of placement, and timing of nutrients. Typical installation involves soil and manure testing testing, analysis, consultant services that provide nutrient recommendations and an associated nutrient budget, and record keeping. Nitrogen-urease inhibitors are used for surface applied urea products. The technical recommendations are based on land grant university recommendations or crop removal rates. Risk assessments including phosphorus index and nitrogen index are completed with applications of manure. Producer records demonstrating implementation of the 4 R's of the nutrient management criteria are required.

Associated practices: Conservation Crop Rotation (328), Residue and Tillage Management - No-Till/ Strip Till/ Direct Seed (329), Cover Crop (340), Filter Strip (393), Irrigation Water Management (449), Drainage Water Management (554), and Integrated Pest Management (595).

Before Situation:

Cropland or hayland with manure or compost application either is not practicing any nutrient management or the practices do not meet the standard. Soil and manure tests are not completed on a regular basis and fertilizer applications are not based on nutrient recommendations. Improper management has caused water quality degradation through excess nutrients transported through runoff and soil erosion to surface waters and/or to groundwater through leaching. Urea products are typically surface appied without inhibitors increasing losses. Soil quality may also be degraded by excess or inadequate nutrients.

After Situation:

A nutrient management system that meets the NRCS 590 standard is developed on a typical 25 acre cropland or hayland field. The development and implementation of a nutrient management plan benefits plant productivity and reduces off-site degradation by maximizing nutrient use efficiency by the crop and minimizing the potential of nutrient losses in leaching and runoff caused by over-application. A nutrient budget is developed for each field based on soil test analysis and land grant university guidelines or crop removal rates. Pre-plant soil tests are used to determine the annual nutrient budget and post-harvest soil and/or tissue tests are used to re-evaluate the adequacy of the plant's nutrient recommendations in meeting crop needs while minimizing phosphorus application and residual nitrogen. Post-harvest testing ensures proper utilization of nutrients thus reducing the potential for off-site impacts. Pre side-dress soil nitrogen tests or pre-top dress tissue tests are used prior to the rapid biomass growth of the plant to assist the producer in evaluating the mineralization nitrogen from manures in providing adequate nitrogen to meet the crop requirements. Urease inhibitors are used for surface applications of urea products to reduce losses. The producer maintains records that are provided annually of the current soil tests, analysis, amount of application, and forms and rates of nutrients for each field, including post-harvest analysis. Management results in nutrient applications that minimize nutrient runoff and leaching, and/or the buildup of excess nutrient concentrations.

Scenario Feature Measure: Per acre of applied management

Scenario Unit: Acre

Scenario Typical Size: 25

Scenario Cost: $720.40 **Scenario Cost/Unit:** $28.82

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	$37.72	2	$75.44
Labor						
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	$96.17	1	$96.17
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$22.22	2	$44.44
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	$39.79	1	$39.79
Materials						
Test, Soil Nitrogen Testing	311	Pre-Side Dress/Deep Soil Testing. Includes materials and shipping only.	Each	$11.68	3	$35.04

Materials

Test, Manure Analysis	306	Moisture, Total N, P, K. Includes materials and shipping only.	Each	$45.49	2	$90.98
Test, Soil Test, Standard	299	Includes materials, shiping, labor, and equipment costs.	Each	$9.77	2	$19.54
Nitrogen-Urease inhibitor	260	Nitrogen-Urease inhibitor	Acre	$12.76	25	$319.00

Practice: 590 - Nutrient Management

Scenario: #5 - Manure Injection

Scenario Description:

This scenario describes the implementation of a basic nutrient management system on planning units 40 acres or larger of cropland or hayland where manure is injected (below soil surface 4"-6"). The planned NM system will meet the current 590 standard. Implementation will result in the proper rate, source, method of placement, and timing of nutrients while minimizing off-site degradation or the excessive built up of N and P. Risk assessments including PI (phosphorus index) and NI (nitrogen index) will be completed and manure applications will be planned and prioritized based on risk results. Records demonstrating implementation of the 4 R's of the NM plan will be required along with copies of risk assessments.

Before Situation:

In this geographic area, a fertility program is either non existent or does not meet the 590 nutrient management standard. Soil testing and manure testing is not completed on a regular basis and applications of nutrients are not based on land grant university recommendations or a nutrient budget. Nutrients and surface-applied manure are transported to surface waters through runoff or erosion or to groundwater through leaching in quantities that degrade water quality and limit use of intended purposes. Soil quality may be degraded by excess or inadequate nutrients. Fields have little or no erosion protection often times resulting in wind, sheet, rill, and ephemeral erosion.

After Situation:

A nutrient management system that includes manure injection (below the soil surface approximately 4-6") will be developed to meet the NRCS 590 standard. The development and implementation of a nutrient management plan (NMP) will benefit plant productivity and reduce off-site degradation. A nutrient management budget will be developed for each field(s) based on soil tests and manure test analysis along with land grant university recommendations or crop removal rates. On a planning unit soil testing is completed according to LGU recommendations. The use of pre-plant soil tests and manure analysis for available plant nutrients will assist with the proper development of the annual nutrient budget. Applications of manure are based on risk assessments (PI - phosphorus index). Records will be provided annually documenting current soil tests and manure tests analyses, date and rate of application, form and placement of nutrients for each field, including post harvest yields. Manure applications are injected 4-6" below the soil surface to minimize nutrient runoff and to capture ammonia-N that otherwise might be lost to volatilization.

Scenario Feature Measure: Acre

Scenario Unit: Acre

Scenario Typical Size: 40

Scenario Cost: $2,078.71 **Scenario Cost/Unit:** $51.97

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	$37.72	1	$37.72
Manure, compost, injection	956	Loading, hauling and injecting manure/compost by ground equipment. Includes equipment, power unit and labor costs.	Gallon	$0.01	184000	$1,840.00
Labor						
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	$96.17	1	$96.17
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	$39.79	1	$39.79
Materials						
Test, Soil Test, Standard	299	Includes materials, shiping, labor, and equipment costs.	Each	$9.77	2	$19.54
Test, Manure Analysis	306	Moisture, Total N, P, K. Includes materials and shipping only.	Each	$45.49	1	$45.49

Practice: 590 - Nutrient Management

Scenario: #6 - 590 Advanced

Scenario Description:

This scenario describes the implementation of advanced nutrient management system on cropland. The planned NM system will meet the current 590 standard. Payment for implementation is to defray the costs of soil testing, tissue testing, analysis, consultant services that provide nutrient recommendations based on LGU recommendations or crop removal rates and an associated nutrient budget, recordkeeping, and monitoring on an advanced level. Records demonstrating implementation of the 4 R's of at the NM plan will be required. This scenario goes beyond the basic NM system by using technologies that improve efficiency and effectiveness of nutrient management by utilizing advanced testing, modeling, and precision application techniques and tools. Advanced nutrient management techniques ensure that the right rate, proper timing, and proper placement of nutrients minimize non-point source pollution and provide proper amounts of nutrients to the crop where it is needed and not applying where it is not needed.

Associated practices: Conservation Crop Rotation (328), Residue and Tillage Management - No-Till/ Strip Till/ Direct Seed (329), Cover Crop (340), Filter Strip (393), Irrigation Water Management (449), Drainage Water Management (554), and Pest Management (595).

Before Situation:

In this geographic area, a fertility program is already in place, however, applied nutrients are applied across large acreages based on a lack of representative soil samples and/ or tissue analyses. The current NM system may or may not meet 590 standards, however, could be improved by reducing energy inputs. Because whole fields are fertilized with the same rate, excess nutrients may be applied in some areas while inadequate amounts of nutrients are applied in other areas. Due to the mono-application rate, excess nutrients are transported to surface waters through runoff or erosion or to ground water from leaching in quantities that degrade water quality and limit use of intended purposes. Soil quality may be degraded by excess or inadequate nutrients. Applications do not consider the detrimental affects of improper timing or improper rates. Whole fields with like crops and rotation are fertilized the same.

After Situation:

Advanced soil and tissue testing is completed in a fashion that provides a representative assessment of nutrient concentrations in each field or management zone. An application rate (prescription) is developed for each zone or field based on representative soil and tissue analysis that accounts for actual plant nutrient status. Nutrient applications are based on LGU recommendations with adjustments based on advanced testing and modeling. Soil testing is completed annually for N and at least once every three years for P-K. A nutrient budget is developed for each field annually. Application of nutrients is completed so that non-point source pollution is minimized. Nutrients are applied based on realistic yield expectations. Records are maintained for all nutrient applications and soil testing. Record keeping will include all soil tests, analysis, zone maps, nutrient prescriptions and budgets, and as-applied applications.

Scenario Feature Measure: Per acre of applied management

Scenario Unit: Acre

Scenario Typical Size: 40

Scenario Cost: $1,430.75 **Scenario Cost/Unit:** $35.77

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
All terrain vehicles, ATV	965	Includes equipment, power unit and labor costs.	Hour	$31.09	2	$62.18
Fertilizer, precision application	952	Fertilizer application performed by light bar/GPS navigation system. Includes equipment, power unit and labor costs.	Acre	$11.02	40	$440.80
Truck, Pickup	939	Equipment and power unit costs. Labor not included.	Hour	$37.72	1	$37.72
Labor						
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	$96.17	2	$192.34
Skilled Labor	230	Labor requiring a high level skill set: Includes carpenters, welders, electricians, conservation professionals involved with data collection, monitoring, and or record keeping, etc.	Hour	$39.79	2	$79.58
Materials						
Test, Soil Test, Standard	299	Includes materials, shiping, labor, and equipment costs.	Each	$9.77	3	$29.31
Test, Plant Tissue Test	301	Tissue analysis for crops. Includes materials and shipping only.	Each	$26.14	3	$78.42
Nitrogen-Urease inhibitor	260	Nitrogen-Urease inhibitor	Acre	$12.76	40	$510.40

Practice: 590 - Nutrient Management

Scenario: #7 - 590 Adaptive Strip Trials

Scenario Description:

The practice scenario is for the implementation of nutrient management on a small plot. Scenario includes implementing replicated strip trials on a field plot to evaluate, identify and implement various nutrient use efficiency improvement methods for timing, rate, method of application, or source of nutrients.

Associated practices: Conservation Crop Rotation (328), Residue and Tillage Management - No-Till/ Strip Till/ Direct Seed (329), Cover Crop (340), Filter Strip (393), Irrigation Water Management (449), Drainage Water Management (554), and Pest Management (595).

Before Situation:

The practice will be installed on cropland (small grain rotation or typical corn-soybean rotation) to address water quality degradation, air quality degradation and energy concerns. The scenario applies to non-organic and organic operations.

After Situation:

Installation of this scenario will result in adopting the four R's of nutrient management (right source, right rate, right timing and right placement) by following the procedures outlined in Agronomy Technical Note 7 - Adaptive Nutrient Management. Implementation involves establishing the replicated plots to evaluate one or more of the 4 R's. The plot will consist of 7 replicated plots designed, laid out, managed and evaluated with the assistance of technical service provider certified in nutrient management planning and implementation. Results are used to make nutrient application decisions to address water quality degradation issues and nutrient use efficiencies. Yields will be measured and statistically summarized following the procedures in Agronomy Technical Note 6 - Adaptive Nutrient Management. The yields for each plot will be adjusted to the appropriate moisture content.

Scenario Feature Measure: Per application

Scenario Unit: Each

Scenario Typical Size: 1

Scenario Cost: $1,866.40 **Scenario Cost/Unit:** $1,866.40

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Satellite imagery, aerial photography, infrared	966	Infrared imagery	Acre	$0.16	1	$0.16
Labor						
Specialist Labor	235	Labor requiring a specialized skill set: Includes Agronomists, Foresters, Biologists, etc. to provide additional technical information during the planning and implementation of the practice. Does not include NRCS or TSP services.	Hour	$96.17	10	$961.70
General Labor	231	Labor performed using basic tools such as power tool, shovels, and other tools that do not require extensive training. Ex. pipe layer, herder, concrete placement, materials spreader, flagger, etc.	Hour	$22.22	16	$355.52
Materials						
Test, Soil Nitrogen Testing	311	Pre-Side Dress/Deep Soil Testing. Includes materials and shipping only.	Each	$11.68	14	$163.52
Test, Plant Tissue Test	301	Tissue analysis for crops. Includes materials and shipping only.	Each	$26.14	14	$365.96
Test, Soil Test, Standard	299	Includes materials, shiping, labor, and equipment costs.	Each	$9.77	2	$19.54